

Claims

1. A method for data transmission, the method comprising the steps of:
- 5 receiving a frame from a first mobile unit, wherein the frame has a first sequence number corresponding to a first Radio Link Protocol (RLP) session;
replacing the first sequence number with a second sequence number,
wherein the second sequence number corresponds to a second RLP session; and
transmitting the frame with the second sequence number to a second
10 mobile unit, wherein the second mobile unit utilizes the second RLP session.
2. The method of claim 1 further comprising the steps of:
replacing the first sequence number with a third sequence number, wherein
the third sequence number corresponds to a third RLP session; and
15 transmitting the frame with the third sequence number to a third mobile unit, wherein the third mobile unit utilizes the third RLP session.
3. The method of claim 1 further comprising the steps of:
determining that there has been an erased frame having a third sequence
20 number;
failing to send the erased frame to the second mobile unit;
receiving a negative acknowledgment (NAK) in response to the step of
failing to send the erased frame to the second mobile unit;
accessing a memory to determine if a NAK was previously sent for the
25 erased frame;
receiving data for the erased frame; and
sending the data for the erased frame to the second mobile unit with a
fourth sequence number.

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4. A method for data transmission, the method comprising the steps of:

receiving a first plurality of frames from a first mobile unit, wherein the first plurality of frames have a first plurality of sequence numbers;

5 replacing the first plurality of sequence numbers with a second plurality of sequence numbers;

replacing the first plurality of sequence numbers with a third plurality of sequence numbers;

10 transmitting the first plurality of frames with the second plurality of sequence numbers to a second mobile unit; and

transmitting the first plurality of frames with the third plurality of sequence numbers to a third mobile unit.

15 5. The method of claim 4 wherein the step of receiving the first plurality of frames from the first mobile unit comprises the step of receiving the first plurality of frames from the first mobile unit, the first plurality of frames comprising first Radio Link Protocol (RLP) sequence numbers.

6. A method comprising the steps of:

20 receiving a plurality of frames having a plurality of sequence numbers associated with the plurality of frames;

determining that a frame has been erased due to a skip in the plurality of sequence numbers;

25 storing an erased-frame sequence number without sending the erased frame to a mobile unit;

receiving a negative acknowledgment (NAK) in response to the step of not sending the erased frame to the mobile unit;

receiving the erased frame;

30 translating the erased-frame sequence number to a second sequence number; and

sending the erased frame to the mobile unit with the second sequence number.

7. The method of claim 6 wherein the step of sending the erased frame to the mobile unit with the second sequence number further comprises the steps of:

receiving the erased frame;

5 determining that the erased frame is a delayed frame based on the erased-frame sequence number;

checking a database to determine if a NAK has been received from the mobile unit; and

10 sending the erased frame to the mobile unit with the second sequence number only if a NAK has been received from the mobile unit.

8. The method of claim 7 wherein the step of receiving a plurality of frames having a plurality of sequence numbers comprises the step of receiving a plurality of frames having a plurality of Radio Link Protocol (RLP) sequence
15 numbers.

9. An apparatus comprising:

a logic unit having a first frame as an input, the first frame having a first sequence number corresponding to a first Radio Link Protocol (RLP) session;

20 a translation database coupled to the logic unit, the translation database providing a second sequence number corresponding to a second RLP session; and

transmission circuitry for transmitting the first frame with the second sequence number to a second mobile unit, wherein the second mobile unit utilizes the second RLP session.

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10. The apparatus of claim 9 further comprising:

a second logic unit having the first frame as an input;

30 a second translation database coupled to the second logic unit, the second translation database providing a third sequence number corresponding to a third RLP session; and

second transmission circuitry for transmitting the first frame with the third sequence number to a third mobile unit, wherein the third mobile unit utilizes the third RLP session.

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11. An apparatus comprising:

a logic unit having a first plurality of frames as an input, wherein the first plurality of frames have a first plurality of sequence numbers, the logic unit outputting the first plurality of frames with a second plurality of sequence numbers replacing the first plurality of sequence numbers;

a second logic unit having the first plurality of frames as an input, and outputting the first plurality of frames with a third plurality of sequence numbers replacing the first plurality of sequence numbers;

first transmission circuitry outputting the first plurality of frames with the second plurality of sequence numbers to a first mobile unit; and

second transmission circuitry outputting the first plurality of frames with the third plurality of sequence numbers to a second mobile unit.

12. The apparatus of claim 11 wherein the first, the second, and the third sequence numbers are first, second, and third Radio Link Protocol (RLP) sequence numbers.